



King County

DENNY WAY/LAKE UNION

CSO CONTROL PROJECT

Issue No. 10
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City of Seattle



U.S. Environmental
Protection Agency

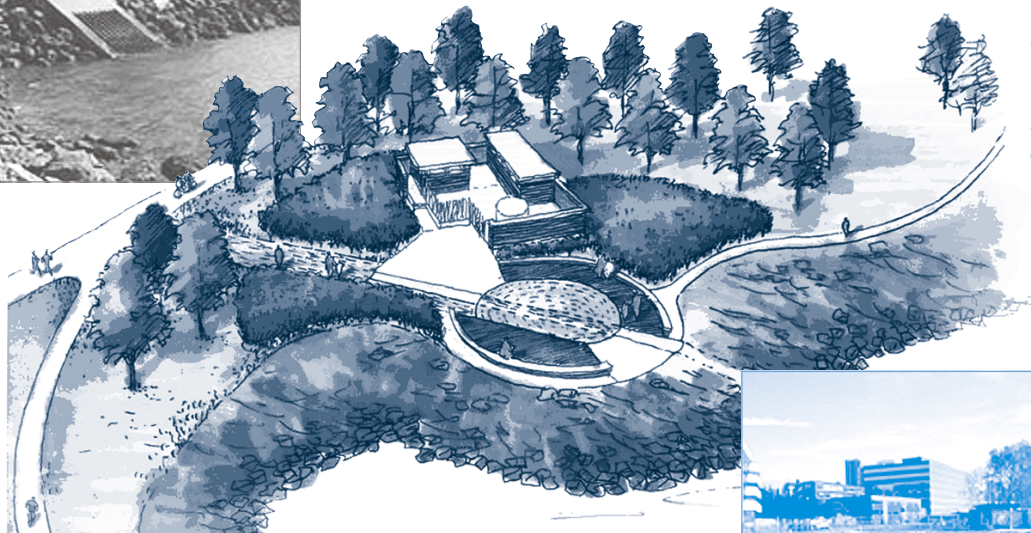


Myrtle Edwards Park Restored

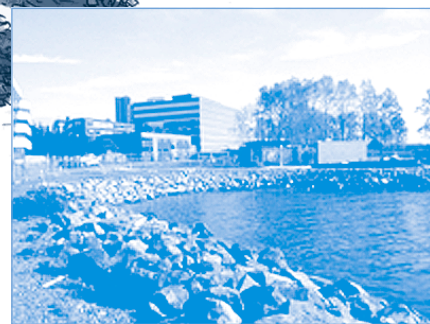


◀ The old open outfall was removed in fall 2002.

◀ Artist rendering of the new plaza in Myrtle Edwards Park. The plaza is now complete and open to the public.



▶ The shoreline was restored in summer 2003. The new outfalls are under water and invisible from shore.



Who Can I Contact with... Questions? Comments? A Problem with Construction?

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Use this number 24 hours a day to report complaints about construction activities.

Construction is complete in Seattle's Myrtle Edwards Park for the Denny Way/Lake Union Combined Sewer Overflow (CSO) Control Project. Although a few small work items remain, most restoration is finished and the park will be fully reopened to the public in early December. During the past several months, the bike paths have been rebuilt, the parks' irrigation systems have been restored, and park landscaping has been revitalized. The new public plaza is also nearing completion. See Page 3 for more details on the work in Myrtle Edwards Park.

The project is a joint effort of King County and the City of Seattle to control CSOs into Lake Union and Elliott Bay. CSOs are overflows of sanitary sewage and stormwater that are released into water bodies during storms. Construction for this project is taking place in three areas of the city: 545 Elliott Avenue West, Elliott Bay and Myrtle Edwards parks, and south Lake Union. Construction began in May 2000 and is expected to end in late 2004.

Five Tunnels Down, Two to Go!

The Denny Way/Lake Union CSO Control Project includes seven tunnels. In late 2000 and early 2001, crews completed three tunnels underneath the railroad tracks west of the work site at 545 Elliott Avenue West. In March 2002, the 1.2-mile-long Mercer Street Tunnel was completed. This tunnel extends from 545 Elliott Avenue West to the “East Portal” at Roy Street and Eighth Avenue North.

The remaining three tunnels are now under construction in the south Lake Union area. These 72-inch-diameter tunnels will transfer storm flows from the existing sewer system in south Lake Union to the new Mercer Street Tunnel. One of these tunnels was completed in summer 2003. The remaining two tunnels will be finished by late spring 2004.

Construction of the south Lake Union tunnels has been under way since early 2003. The first tunnel to be built is under Eighth Avenue North between Roy and Republican streets. It was finished in May 2003. A tunnel boring machine (TBM) is now tunneling from Eighth Avenue North and Roy Street under Broad Street to the work site at Valley Street and Terry Avenue North. In early 2004, the contractor will begin work on the last tunnel, extending from Valley Street and Terry Avenue North under Valley Street to the east side of Fairview Avenue North.

The map below outlines the locations, anticipated impacts and construction duration of the three south Lake Union tunnels:

1 East Portal: Roy Street and 8th Avenue North

The East Portal will remain an active construction site through project completion in late 2004. Roy Street between 8th and Dexter avenues north, will remain closed to traffic until that time.

2 Republican Street and 8th Avenue North

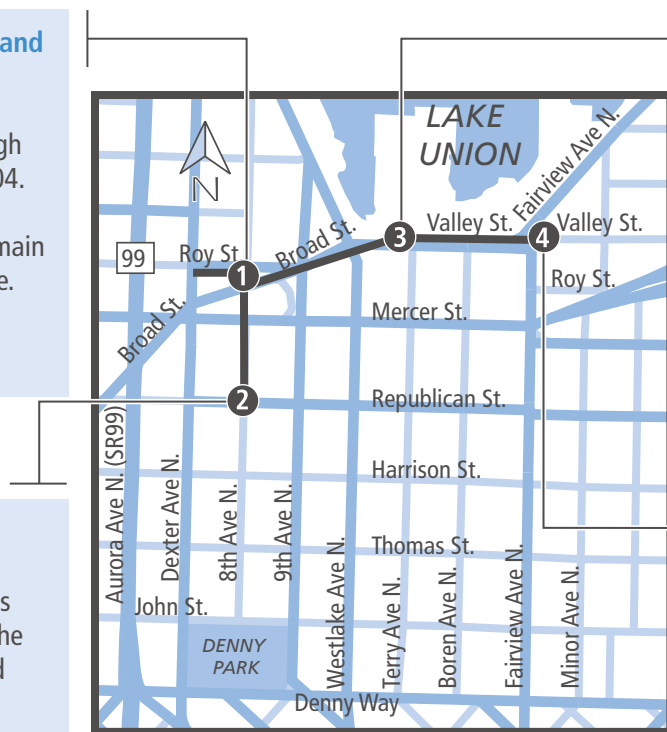
The tunnel to this location was completed in summer 2003. The intersection has been restored and reopened to traffic.

3 NW Corner of Valley Street and Terry Avenue North

A TBM is now boring to this location from the East Portal. It should arrive in late 2003. Until spring 2004, expect truck traffic, flaggers and other construction impacts at this location. Restoration of the site will be complete in late spring 2004.

4 Valley Street, east of Fairview Avenue North

This construction site functions as a receiving pit for the TBM that will bore from the Valley Street and Terry Avenue North site in early 2004. This section of Valley Street will remain closed to traffic until late spring 2004.



— New tunnels in south Lake Union

Myrtle Edwards Park: Changes Above and Below Ground

Although a few small work items remain, project construction in Myrtle Edwards Park is nearly finished, and the park will be reopened to the public by early December. Let's review the four-year-long construction process: What did it entail, and why was it necessary?

Beginning in 2001, two marine outfalls were built. The longer outfall extends 450 feet offshore and is 60 feet deep; the shorter outfall is 100 feet offshore and 20 feet deep. The longer outfall will be used about 20 times a year to discharge treated CSO flows; the shorter outfall is expected to be used once per year for discharge of untreated CSO flows during very large storms.

In the summer of 2002, following construction of the new outfalls, the old CSO discharge was demolished, and the shoreline was reconfigured.



Artist rendering of new outfalls offshore at Myrtle Edwards Park.

In early 2002, two pipelines were installed extending from the grain terminal area in the Port of Seattle's Elliott Bay Park to the Denny Regulator Station in Myrtle Edwards Park. In addition, several underground structures were built to transfer flows from the existing sewer system to the new CSO facilities.

At the Denny Regulator, new facilities were built to connect the pipelines to the new outfalls. At the north end, the two pipelines connect to the CSO Control Facility now under construction at 545 Elliott Avenue West. One new pipeline in the park will carry combined sewer flows from the Denny Regrade area to the CSO Control Facility. The other pipeline will carry flows that have received CSO treatment (screening and disinfection) from the CSO Control Facility to the new outfall.

Once all underground work was completed, the new bike path was paved, the public plaza was built, the artwork was placed, and the landscaping in both parks was restored.

The new bike path in Myrtle Edwards Park is wider and less curvy and has improved drainage.



This project is necessary to comply with state and federal regulations mandating that CSO flows are controlled to an average of one untreated discharge per year at each CSO discharge location. The existing Denny CSO discharges about 50 times per year to Elliott Bay. When the new facilities begin operation in late 2004, untreated releases will be controlled to an average of one overflow per year at each remaining outfall. This project will reduce the release of pollutants into Elliott Bay, which is good news for park users and the wildlife that depends on Elliott Bay!

Other Project News: CSO Control Facility

Construction of the CSO Control Facility on Elliott Avenue West is under way and is expected to be complete in late 2004. Look for construction details on the facility in our next newsletter.

South Lake Union's History Continues to Influence Construction Today



Western Mill Co. plant at south Lake Union, 1891. MSCUA, University of Washington

Soil conditions in south Lake Union have posed some challenges, mostly related to the historical land uses in the area. Early development in this area included sawmills, a landfill, piers and rail lines. Westlake Avenue was built on timber piles and the lake itself extended as far south as Mercer Street. Over time, the area changed because the lake level was lowered when the Ballard Locks opened, fill was placed around and under timber pile-supported structures, and buildings became obsolete or were destroyed by fires.

Before construction, the project team reviewed old maps and photographs, and it completed extensive explorations of ground and water conditions to identify potential issues that could affect the project. Of particular concern are timber piles, other debris buried in the fill layer, and groundwater conditions in the tunnel zones. Timber piles and debris can be very difficult for the tunnel boring machine. The high groundwater table is also challenging for tunneling and for construction of access shafts at the beginning and end of each tunnel.

Challenges faced so far have delayed the tunneling and extended project completion by a few months. With two tunnels still to be completed, it is unknown whether more problems will be encountered that might delay completion further. Look for our progress in the next newsletter.

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